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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/552,588

10/12/2005

Yasuhiko Otsubo

960/193

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07/27/2006

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EXAMINER

TRAN, DIEM T

ART UNIT

PAPER NUMBER

3748

DATE MAILED: 07/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/552,588

Applicant(s)

OTSUBO ET AL.

Examiner

Diem Tran

Art Unit

3748

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 10 is/are rejected.
- 7) ☒ Claim(s) 8,9,11 and 12 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

The preliminary amendment filed on 10/12/05 has been acknowledged. In the amendment, claims 1-10 have been amended and claims 11, 12 have been added. Overall, claims 1-12 are pending in this application.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3-7, 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Sekiya et al. (US 5,207,990).

Regarding claims 1, 10, Sekiya discloses an exhaust purifying apparatus for an internal combustion engine, comprising:

a collector (52) that is located in an exhaust passage of the internal combustion engine and collects particulate matter in exhaust gas;

a fuel supplying device (55) that supplies unburned fuel to the exhaust passage to burn and remove particulate matter collected by the collector, thereby regenerating the collector, a determining section that determines whether particulate matter in the collector has been burned and removed; and a controlling section that causes the fuel supplying device to supply unburned fuel to the exhaust passage after the determining section determines that particulate matter in the

collector has been burned and removed (see col. 3, lines 53-60, col. 4, lines 62-68, col. 5, lines 1-9).

Regarding claim 3, Sekiya further discloses that an exhaust purifying catalyst (51) located in a section of the exhaust passage that is upstream of the collector (52), wherein the fuel supplying device supplies unburned fuel to a section of the exhaust passage that is upstream of the exhaust purifying catalyst (see Figure 1).

Regarding claim 4, Sekiya further discloses that the controlling section causes the fuel supplying device to intermittently supply unburned fuel to the exhaust passage according to a fuel supply cycle that includes a period in which supply of unburned fuel is executed and a period in which supply of unburned fuel is not executed (see col. 1, lines 61-66).

Regarding claims 5-7, Sekiya further discloses that a detecting section (16) that detects a pressure difference between the exhaust pressure in sections of the exhaust passages that are upstream and downstream of the collector, wherein the determining section determines that particulate matter in the collector has been burned and removed based on the exhaust pressure difference detected by the detecting section (see Figure 2, col. 3, lines 55-60), and a comparing section that compares a predetermined value with a exhaust pressure difference, wherein the controlling section switches the manner in which the fuel supplying device supplies unburned fuel to the exhaust passage according to the result of comparison by the comparing section (see col. 3, lines 55-60).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sekiya in view of Shinzawa et al. (US Patent 5,287,698).

Regarding claim 2, Sekiya discloses all the claimed limitations as discussed in claim 1 above, however, fails to disclose that an estimating section that estimates the amount of particulate matter in the collector based on the operating condition of the engine. Shinzawa teaches that an amount of particulate matter in the collector is estimated based on the operating condition of the engine (engine speed, load) (see col. 22, lines 9-13).

It would have been obvious to one having ordinary skill in the art at the time the invention was made, to have utilized the teaching of Shinzawa in the Sekiya system, since the use thereof would have provided an effective means for estimating the trapped particulate matter in the filter.

Allowable Subject Matter

Claims 8, 9, 11, 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication from the examiner should be directed to Examiner Diem Tran whose telephone number is (571) 272-4866. The examiner can normally be reached on Monday -Friday from 8:30 a.m.- 5:00p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion, can be reached on (571) 272-4859. The fax number for this group is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 800-786-9199 (toll-free).

DT
July 20, 2006



Diem Tran
Patent Examiner
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